

IN THE CLAIMS

Please amend the claims to read as follows:

Listing of Claims:

1. (Currently amended) A non-contact IC card reading/writing apparatus comprising:

a loop antenna, which supplies both electric power and a transmission signal to a non-contact IC card by way of an electromagnetic induction effect and acquires a reception signal from the non-contact IC card by way of a load variation;

a resonant circuit, which resonates the loop antenna at a desirable frequency;

a wireless transmitter, which supplies both electric power and transmission data via the resonant circuit to the loop antenna; and

a wireless receiver, which acquires a reception signal from the loop antenna via the resonant circuit, wherein:

data transmitted from the non-contact IC card is demodulated from the reception signal by a demodulating circuit; and

the resonant circuit, the wireless transmitter, and the wireless receiver are coupled to each other via a directional coupler in which the transmission signal is transmitted from the

transmitter to the antenna and the reception signal is transmitted from the antenna to the receiver.

2. (Currently amended) A non-contact IC card reading/writing apparatus comprising:

a loop antenna, which supplies both electric power and a transmission signal to a non-contact IC card by way of an electromagnetic induction effect and acquires a reception signal from the non-contact IC card by way of a load variation;

a resonant circuit, which resonates the loop antenna at a desirable frequency;

a wireless transmitter, which supplies both electric power and transmission data via said resonant circuit to the loop antenna; and

a wireless receiver, which acquires a reception signal from the loop antenna via the resonant circuit unit⁷, wherein:

data transmitted from the non-contact IC card is demodulated from the reception signal by a demodulating circuit; and

the resonant circuit, the wireless transmitter, and said wireless receiver are coupled to each other via a circulator in which the transmission signal is transmitted from the transmitter to the antenna and the reception signal is transmitted from the antenna to the receiver.

3. (Currently amended) A non-contact IC card reading/writing apparatus comprising:

a loop antenna, which supplies both electric power and a transmission signal to a non-contact IC card by way of an electromagnetic induction effect and acquires a reception signal from the non-contact IC card by way of a load variation;

a resonant circuit, which resonates the loop antenna at a desirable frequency;

a wireless transmitter, which supplies both electric power and transmission data via the resonant circuit to the loop antenna; and

a wireless receiver, which acquires a reception signal from the loop antenna via the resonant circuit ~~unit~~, wherein:

data transmitted from the non-contact IC card is demodulated from the reception signal by a demodulating circuit;

~~the resonant circuit, the wireless transmitter, and the wireless receiver are coupled to each other via a first isolator in which the reception signal is transmitted from the antenna to the receiver; and~~

the resonant circuit and the wireless transmitter are coupled to each other via a second isolator in which the transmission signal is transmitted from the transmitter to the antenna.

4. (Currently amended) A non-contact IC card reading/writing apparatus comprising:

a loop antenna, which supplies both electric power and a transmission signal to a non-contact IC card by way of an electromagnetic induction effect and acquires a reception signal from the non-contact IC card by way of a load variation;

a first resonant circuit, which resonates the loop antenna at a first desirable frequency;

a wireless transmitter, which supplies both electric power and transmission data via the first resonant circuit to the loop antenna; and

a wireless receiver, which acquires a reception signal from the loop antenna via a second resonant circuit which is connected to the loop antenna by way of coupling capacitor and is resonated at a second desirable frequency;

wherein data transmitted from the non-contact IC card is demodulated from the reception signal by a demodulating circuit.

5. (Original) The non-contact IC card reading/writing apparatus as claimed in claim 4 wherein:

a resonant frequency of the first resonant circuit is set to a frequency of a carrier wave used to transfer both the electric power and the transmission signal; and

a resonant frequency of the second resonant circuit is set to a frequency of a modulated subcarrier which is produced based upon a load variation occurred on the side of the non-contact IC card.

6. (Currently amended) The non-contact IC card reading/writing apparatus as claimed in ~~any one of~~ claim 4 and ~~claim 5~~ wherein:

a second coil is provided in the vicinity of a first coil which constitutes the second resonant circuit and is coupled to the first coil by way of a mutual induction effect;

one terminal of the first coil is connected to a first ground; and

one terminal of the second coil is connected to a second ground of both the wireless transmitter and an antenna circuit is separated from the ground of the wireless ~~receiving unit~~ receiver.

7. (Currently amended) The non-contact IC card

reading/writing apparatus as claimed in ~~any one of~~ claim 4 to ~~claim 6~~ wherein:

both a turn number "n1" of the first coil which constitutes the second resonant circuit and a turn number and a turn number "n2" of the second coil which is coupled to the first coil by way of the mutual induction effect are selected in such a manner that said turn number "n1" is matched to an output impedance "z1" of the second resonant circuit, and the turn number "n2" is matched to an input impedance of the wireless receiver; and

both the first coil and the second coil own an impedance converting function.

8. (Currently amended) The non-contact IC card reading/writing apparatus as claimed in ~~any one of~~ claim 4 to ~~claim 7~~ wherein:

both a first capacitor "C1" and a second capacitor "C2" series-connected between one terminal and the other terminal of the second coil;

an output signal is derived from a joint point between the first capacitor C1 and the second capacitor C2; and

both the first capacitor C1 and the second capacitor C2 own an impedance converting function.

9. (Currently amended) The non-contact IC card reading/writing apparatus as claimed in ~~any one of~~ claim 4 to ~~claim 7~~ wherein:

the resonant frequency of the second resonant circuit is set to a frequency of a lower-sided modulated subcarrier within both side bands which are formed based upon a load variation occurred on the side of the non-contact IC card.

10. (Currently amended) The non-contact IC card reading/writing apparatus as claimed in ~~any one of~~ claim 4 to ~~claim 7 and claim 8~~ wherein:

the resonant frequency of the second resonant circuit is set to a frequency of an upper-sided modulated subcarrier within both side bands which are formed based upon a load variation occurred on the side of the non-contact IC card.

11. (Currently amended) The non-contact IC card reading/writing apparatus as claimed in ~~any one of~~ claim 4 to ~~claim 8~~ wherein:

the resonant frequency of the second resonant circuit is set to a frequency range which covers a plurality of modulated subcarriers formed based upon a load variation occurred on the

side of the non-contact IC card.

12. (Currently amended) The non-contact IC card reading/writing apparatus as claimed in ~~any one of~~ claim 4 to ~~claim 11~~ wherein:

an intermediate frequency transformer is provided between the second resonant circuit and the wireless receiver; and

the ground of the second resonant circuit is separated from the ground of the wireless receiver.

13. (New) A non-contact IC card reading/writing apparatus comprising:

a loop antenna, which supplies both electric power and a transmission signal to a non-contact IC card by way of an electromagnetic induction effect and acquires a reception signal from the non-contact IC card by way of a load variation;

a wireless transmitter, which supplies both electric power and transmission data via a resonant circuit to the loop antenna; and

a wireless receiver, which acquires a reception signal from the loop antenna via the resonant circuit,

wherein the wireless transmitter and the wireless receiver are coupled to each other via a circuit in which the transmission signal is transmitted from the transmitter to the antenna and the reception signal is transmitted from the antenna to the receiver.